SECTION 1: Identification

1.1. Identification

Product form: Mixture
Product name: Greenfree 92
CAS-No.: Mixture
Product code: 5488 = Mix3808
Other means of identification: Magnesia - Alumina Spinel Brick

1.2. Recommended use and restrictions on use

Use of the substance/mixture: Refractory
Recommended use: Industrial use

1.3. Supplier

Resco Products, Inc.
One Robinson Plaza, Suite 300
6600 Steubenville Pike
Pittsburgh, PA 15205 - United States
412-494-4491
SDS@RescoProducts.com • WWW.RescoProducts.com

1.4. Emergency telephone number

Emergency number: EMERGENCY ONLY (CHEMTREC) USA & Canada 1-800-424-9300
Outside USA & Canada +1 703-741-5970

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification
Skin corrosion/irritation Category 2 H315 Causes skin irritation
Specific target organ toxicity (single exposure) Category 3 H335 May cause respiratory irritation from dust in sawing or tear out operations.

Full text of H statements: see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US): 

Signal word (GHS US): Warning
Hazard statements (GHS US): Dust from sawing or tear out may irritate eye.
H315 - Causes skin irritation
H335 - May cause respiratory irritation from dust in sawing or tear out operations.


2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnesium Oxide</td>
<td>(CAS-No.) 1309-48-4</td>
<td>75 – 95</td>
<td>Not classified</td>
</tr>
<tr>
<td>aluminium oxide, non-fibrous</td>
<td>(CAS-No.) 1344-28-1</td>
<td>1 – 5</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

Full text of hazard classes and H-statements: see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation: Dust when sawing or tear out. Allow affected person to breathe fresh air.
First-aid measures after skin contact: Gently wash with plenty of soap and water.
First-aid measures after eye contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation: May cause respiratory irritation.

4.3. Immediate medical attention and special treatment, if necessary

No additional information available
# SECTION 5: Fire-fighting measures

## 5.1. Suitable (and unsuitable) extinguishing media

<table>
<thead>
<tr>
<th>Suitable extinguishing media</th>
<th>Use extinguishing media appropriate for surrounding fire.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unsuitable extinguishing media</td>
<td>In case of fire, all extinguishing media allowed.</td>
</tr>
</tbody>
</table>

## 5.2. Specific hazards arising from the chemical

**Fire hazard**: Non-flammable.

## 5.3. Special protective equipment and precautions for fire-fighters

**Firefighting instructions**: Fight fire with normal precautions from a reasonable distance.

**Protection during firefighting**: Do not enter fire area without proper protective equipment, including respiratory protection.

# SECTION 6: Accidental release measures

## 6.1. Personal precautions, protective equipment and emergency procedures

### 6.1.1. For non-emergency personnel

**Protective equipment**: Safety shoes. Protective gloves. Safety glasses.

**Emergency procedures**: Avoid contact with skin. Avoid contact with eyes.

### 6.1.2. For emergency responders

**Protective equipment**: Do not attempt to take action without suitable protective equipment.

## 6.2. Environmental precautions

No additional information available.

## 6.3. Methods and material for containment and cleaning up

**For containment**: Collect spillage.

**Methods for cleaning up**: On land, sweep or shovel into suitable containers.

## 6.4. Reference to other sections

No additional information available.

# SECTION 7: Handling and storage

## 7.1. Precautions for safe handling

**Hygiene measures**: Do not eat, drink or smoke when using this product. Wash skin thoroughly with mild soap and water.

## 7.2. Conditions for safe storage, including any incompatibilities

**Storage conditions**: Store this product in a dry location where it can be protected from the elements.

**Incompatible products**: Strong acids.

# SECTION 8: Exposure controls/personal protection

## 8.1. Control parameters

<table>
<thead>
<tr>
<th>Greenfree 92 (Mixture)</th>
<th>No additional information available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnesium Oxide (1309-48-4)</td>
<td>USA - ACGIH - Occupational Exposure Limits</td>
</tr>
<tr>
<td>10 mg/m³ inhalable dust</td>
<td></td>
</tr>
<tr>
<td>USA - OSHA - Occupational Exposure Limits</td>
<td></td>
</tr>
<tr>
<td>10 mg/m³ respirable dust</td>
<td></td>
</tr>
<tr>
<td>aluminium oxide, non-fibrous (1344-28-1)</td>
<td></td>
</tr>
<tr>
<td>USA - ACGIH - Occupational Exposure Limits</td>
<td></td>
</tr>
<tr>
<td>1 mg/m³ respirable dust</td>
<td></td>
</tr>
</tbody>
</table>

## 8.2. Appropriate engineering controls

**Appropriate engineering controls**: Dust when sawing or tear out. Provide adequate ventilation to minimize dust concentrations.

## 8.3. Individual protection measures/Personal protective equipment

No additional information available.

# SECTION 9: Physical and chemical properties

## 9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>medium brown</td>
</tr>
<tr>
<td>Odor</td>
<td>None</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>&gt; 3000 °F</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not flammable.</td>
</tr>
</tbody>
</table>
Vapor pressure: No data available
Relative vapor density at 20 °C: No data available
Relative density: ≈ 2.7
Solubility: Insoluble in water.
Partition coefficient n-octanol/water (Log Pow): No data available
Auto-ignition temperature: No data available
Decomposition temperature: No data available
Viscosity, kinematic: No data available
Viscosity, dynamic: No data available
Explosion limits: No data available
Explosive properties: No data available
Oxidizing properties: No data available

9.2. Other information
No additional information available

SECTION 10: Stability and reactivity
10.1. Reactivity
No additional information available
10.2. Chemical stability
Stable under normal conditions.
10.3. Possibility of hazardous reactions
No additional information available
10.4. Conditions to avoid
No additional information available
10.5. Incompatible materials
No additional information available
10.6. Hazardous decomposition products
No additional information available

SECTION 11: Toxicological information
11.1. Information on toxicological effects
Acute toxicity (oral): Not classified
Acute toxicity (dermal): Not classified
Acute toxicity (inhalation): Not classified

**Magnesium Oxide (1309-48-4)**
LD50 oral rat: > 5000 mg/kg (Rat, Literature study, Oral)
LD50 dermal rabbit: > 2000 mg/kg body weight (Rabbit, Literature study, Dermal)

**aluminium oxide, non-fibrous (1344-28-1)**
LD50 oral rat: > 15900 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral)
LC50 Inhalation - Rat: 7.6 mg/l air (Equivalent or similar to OECD 403, 1 h, Rat, Male, Experimental value, Inhalation (aerosol))

Skin corrosion/irritation: Causes skin irritation.
Serious eye damage/irritation: Not classified
Respiratory or skin sensitization: Not classified
Germ cell mutagenicity: Not classified
Carcinogenicity: Not classified
Reproductive toxicity: Not classified
Specific target organ toxicity – single exposure: May cause respiratory irritation from dust in sawing or tear out operations.
Specific target organ toxicity – repeated exposure: Not classified
Aspiration hazard: Not classified
Viscosity, kinematic: No data available
Symptoms/effects after inhalation: May cause respiratory irritation.

SECTION 12: Ecological information
12.1. Toxicity
No additional information available
12.2. Persistence and degradability

**Magnesium Oxide (1309-48-4)**
Persistence and degradability: Not applicable.
Chemical oxygen demand (COD): Not applicable
ThOD: Not applicable
### Section 12.3. Bioaccumulative potential

<table>
<thead>
<tr>
<th>Component</th>
<th>Bioaccumulative potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnesium Oxide (1309-48-4)</td>
<td>No bioaccumulation data available.</td>
</tr>
<tr>
<td>aluminium oxide, non-fibrous (1344-28-1)</td>
<td>No data available.</td>
</tr>
</tbody>
</table>

### Section 12.4. Mobility in soil

<table>
<thead>
<tr>
<th>Component</th>
<th>Ecology - soil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnesium Oxide (1309-48-4)</td>
<td>No data.</td>
</tr>
<tr>
<td>aluminium oxide, non-fibrous (1344-28-1)</td>
<td>No data.</td>
</tr>
</tbody>
</table>

### Section 12.5. Other adverse effects

No additional information available.

### Section 13: Disposal considerations

#### 13.1. Disposal methods

No additional information available.

### Section 14: Transport information

#### Department of Transportation (DOT)

In accordance with DOT

Transportation of Dangerous Goods

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

### Section 15: Regulatory information

#### 15.1. US Federal regulations

**Greenfree 92 (Mixture)**

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

| aluminium oxide, non-fibrous (1344-28-1) | Not subject to reporting requirements of the United States SARA Section 313 |

**Note**: The section 313 chemical list contains "CAS # 1344-28-1 Aluminum Oxide (Fibrous forms)", the Aluminum oxide contained in this product is non-fibrous, and thus is not a section 313 material. Only manufacturing, processing, or otherwise use of aluminum oxide in the fibrous form triggers reporting.

#### 15.2. International regulations

**CANADA**

| Magnesium Oxide (1309-48-4) | Listed on the Canadian DSL (Domestic Substances List) |
| aluminium oxide, non-fibrous (1344-28-1) | Listed on the Canadian DSL (Domestic Substances List) |

**EU-Regulations**

No additional information available

**National regulations**

No additional information available

#### 15.3. US State regulations

<table>
<thead>
<tr>
<th>Component</th>
<th>State or local regulations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnesium Oxide (1309-48-4)</td>
<td>U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right To Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List</td>
</tr>
<tr>
<td>aluminium oxide, non-fibrous (1344-28-1)</td>
<td>U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right To Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List</td>
</tr>
</tbody>
</table>

### Section 16: Other information
**Other information**

Report language name. English. In the event of any conflict between English and other language versions, the English version shall prevail.

**Full text of H-phrases:**

<table>
<thead>
<tr>
<th>H315</th>
<th>Causes skin irritation</th>
</tr>
</thead>
<tbody>
<tr>
<td>H335</td>
<td>May cause respiratory irritation</td>
</tr>
</tbody>
</table>

**SDS US (GHS HazCom 2012)**

This information and recommendations set forth herein are taken from sources believed to be accurate as of the date herein, however, Resco Products, Inc. makes no warranty with respect to the accuracy of the information or the suitability of the recommendations, and assumes no liability to any user thereof.